

REMARKS

Claims 1-20 stand rejected under 35 U.S.C. 103(a) as being anticipated by United States Patent No. 5,797,013 ("Mahadevan") in view of Patent No. 5,857,105 ("Ayers").

Applicant submits amendments to claims 1, 2, 11 and 12, as set out herein above, to distinguish the present invention over the cited art and thereby overcome the rejection.

Specifically, amendments to claims 1, 2, 11 and 12 are submitted so that each one of the amended claims states that execution conditions are provided "such that program variables of the compiled code have certain values satisfying initial and terminating conditions for causing execution of the loop construct the loop repetition number of times n , wherein the call invokes the procedure responsive to arguments of the call, the arguments including ones of the program variables" and that "the call is omitted from the consolidated loop code segment if the certain program variable values are such that the call invoking the procedure results in no change in program variables."

No new matter is added in the amendments to claims 1, 2, 11 and 12, since the specification as originally submitted provides support. See present application, page 9, lines 22-27; page 10, lines 6-7; page 11, line 29 - page 12, line 5; page 12, lines 11-14; page 15, lines 7-9; and page 15, lines 22-25 (discussing program variables of the compiled code having certain values satisfying initial and terminating conditions for causing execution of the loop construct a certain number of times). See present application, page 12, lines 20-22; page 13, lines 9-18; page 16, lines 3-7; and page 16, line 18 - page 17, line 2 (discussing a call in the code that invokes the procedure responsive to arguments thereof, and that the call is omitted from the consolidated loop code segment if the program variable values that satisfy initial and terminating conditions for causing execution of the loop construct a certain number of times are such that the call invoking the procedure results in no change in program variables).

The Office action cites Ayers for teaching that a non-optimized code segment includes a call to a procedure depending on a number of arguments, at column 4, lines 51-58, and that the call invokes the procedure only if a certain condition is met in which an argument is less than another argument, at column 5, lines 10-18. Applicant contends that the amended limitations of claims 1, 2, 11 and 12 submitted herein patentably distinguish the present invention over the above cited teachings by Ayers, and all the teachings of the cited art, for the following reasons.

Ayers concerns a problem presented when source code is compiled in modules to save compiler memory. Ayers, col. 1, lines 20-26. In this context, there is a need to sometimes "in-line" calls at compile time that invoke routines not identified until run time (referred to as "indirect calls"). Ayers, col. 1, lines 43-45, col. 2, lines 24-32. Such "in-lining" refers to replacing a call at the call site with the body of the called procedure. See Ayers col. 1, lines 56-57, and also lines 36-39. Routines not yet identified at compile time and which might be the subject of a call are referred to as "prospective callee routines." Ayers, col. 3, line 65 - col. 4, line 1. Ayers column 4, lines 51-58, describes matching prospective callee routines and indirect calls by analyzing "signatures" that include number and kind of arguments. Ayers column 5, lines 10-18 is in the context of col. 4, line 66 - col. 5, line 18, which states:

Once all prospective callee routines have been subjected to the signature match test, a much smaller subset of prospective callee routines remain. That smaller subset is then subjected to a profile match test which determines which of the remaining prospective callee routines evidences one or more indirect calls thereto. The profile match test (box 58) proceeds by determining the total number of calls (both direct and indirect) to the prospective callee node. Next, the number of direct calls to the prospective callee routine which come from identified caller nodes are retrieved from the global call graph.

It is then determined if the total number of calls to the prospective callee node exceed the direct caller count thereto. If yes, the excess calls are termed "surplus" and indicate a potential for the prospective callee routine being the subject of one or more indirect calls. The number of surplus calls is recorded and the node is passed to a ranking step (box 60). If there are no surplus calls, the prospective callee routine is rejected and a next prospective callee routine is subjected to the profile match test.

The cited passages of Ayers do not teach or suggest that a call is omitted from a consolidated loop code segment if program variable values that satisfy initial and terminating conditions for causing execution of the loop a certain number of times are such that the call invoking the procedure results in no change in program variables, as in amended claims 1, 2, 11 and 12 of the present application.

For the above reasons, Applicant contends independent claims 1, 2, 11 and 12 of the present application, as amended, are allowable. Applicant also contends that dependent claims 3-10, and 13-20 are patentably distinct at least because they each depend on respectively allowable independent claims. MPEP 2143.03.

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PRIOR ART OF RECORD

Applicant has reviewed the prior art of record cited by but not relied upon by Examiner, and asserts that the invention is patentably distinct.

REQUESTED ACTION

Applicant contends that the invention as claimed in accordance with amendments submitted herein is patentably distinct, and hereby requests that Examiner grant allowance and prompt passage of the application to issuance.

Respectfully submitted,



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